Assembly Instructions for Blaster 2
by Larry Jolly
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Congratulations on purchasing your new Blaster 2 from Kennedy Composites. You can't help but be impressed with the beautiful lines and presentation of this state of the art Discus Launched R.C. Glider. You will find that it flies better than it looks.

Before you start unpacking the Blaster 2 get the bench cleared off and make sure you have the gear you will need to fit it out.
For my model I used 2- Spektrum DSP60 Digital 6 gram servos for the ailerons, 2- JR DS285 Digital servos for the rudder and elevator, along with a Spektrum AR6200 DSM2 2.4 GHz RX for control and a 4 cell CMH 350 ma NiMh battery to power the system. I also used 2 Eflite 12" lightweight aileron extensions lengthened to 14".

The Blaster 2 can be assembled with some foam-safe cyanoacrylate (CA), some flexible, clear CA, try the new Mercury Brand, and a little 5-minute epoxy, and some Zap-a-Dap-a-Goo adhesive. Using the equipment called out above I was able to assemble my Blaster 2 with no nose weight and a finished all-up of just over 11 ounces.

Ok let's GO….

Carefully un-tape the parts from their foam sleeves and place them some place safe so they can't get dinged or fall against something and get a permanent imprint in a flight surface.

Check the wing over, nice isn't it. If this is your first moldie HL Glider I cannot overly impress upon you the need to be very careful when handling all flight surfaces. They are easy to ding and you will be surprised what a moment of carelessness can achieve. Let me make my last comment on this warning, this is the best your wing is ever going to look. If you are careful you can prolong the newness of your Blaster 2 for several seasons. If you are going to mark the location of component or a trim line always put a low tack masking tape down first before marking with a fine line felt pen.

1) Make the wing ready for installation of the aileron servos.
   Carefully cut out the servos bays with a sharp Exacto knife and a straight edge. Leave about 3/32" showing for receiving the servo cover.

2) Open up the servo extension access bay behind the spar in the middle of the lower surface. Be aware that the spar protrudes aft about 1/8" behind the spar-caps visible in the lower surface. If you are going to use a

connector like a Multiplex multi pin, plan your installation carefully. The best plan may be to angle the connector slightly forward otherwise you might work yourself worked in to a corner because of the angle on the wing pylon.

3) Prepare the aileron servos for installation. You should have already programmed your radio so that you can identify the zero point for the servo arm. Double check it and make sure that all camber, and braking systems are in the cruise condition so that the arms can be set perpendicular to the bottom of the servo case. Remove the aft lug on the Servo. Leave the front one it will help if you need to later pull the servo. For the JR DSPS60 servos I used the arm that came on the servo and shortened it, so that I could use the third hole from the center of the arm.

4) Place the servos in the bay and slide them slightly forward so they touch the spar. Using the JR DSP60's I aligned the bottom of the case with the inside edge of the servo bay offset about 1/8". Make sure that the servo is aligned with the hinge line of the aileron. When you have determined the proper location place a small amount of Zap-a-Dap-a-Goo adhesive on some scrap cardboard and transfer some to the bottom of the servo and the back edge where it touches the spar. Place the servo in location for a few seconds. Remove the servo and hold it for a couple of minutes while the adhesive starts to cure, then place the servo in to its location. Use the adhesive sparingly, and it will be easy to remove the servo for servicing. If you get some adhesive on the wing let it cure and it will easily peel off.

5) Trim the carbon control horns as shown you will use the inside hole. Use a straight edge placed against the servo arm to determine the best location for the horn. Carefully slot the aileron to accept the control horn. Be very careful as it easy to go through the top surface of the wing skin. The better you line up the horns and get them in the same place in both sides the better your ailerons will track when using them as flaps. When you are satisfied glue the horns in place with flexible CA or 5-minute epoxy.

6) I make up my aileron pushrods from carbon rod and small gauge wire secured with Kevlar thread and CA, with a Z-bend at the servo end, and a 90-degree bend at the control horn. This I secure in place with a bit of plastic pushrod housing sliced a few thousandths thick and a dab of CA. Using the 90-degree bends the push rods are removable, if necessary. Remember to determine the proper pushrod length by turning on your radio and zeroing the servo. Adjust the pushrod length until the aileron is in line with a straight edge placed flat against the lower wing surface. Before you permanently secure the pushrod in place, locate and trim the servo covers so that servo arm has free movement along its total throw. I use the Zap-a-Dap-a-Goo to secure the servo cover. Now secure the

pushrods and try activating the ailerons with your transmitter. You should have free and full movement and the ailerons should track together when you activate them as flaps. The wing is now finished and should be placed in a safe place.

Moving on to the fuselage, there are a few things to keep in mind. First don't add any more weight to the tail than is necessary - so be careful when gluing the pushrods. Carefully align the stab and fin when securing them to the tail boom, a crooked tail will make it hard to launch and fly well. I like to assemble the fuselage from the tail forward so let's start by testing the fit of the fin to the slot in the Tail Boom.

1) Before you do anything else, take the V-mount from the parts bag and slide it on to the boom with the threaded stud oriented aft. It is not a bad idea to masking tape it in place out of the way so there is no way it can be inadvertently left off when you glue the fin in place. Mount the wing with the four screws provided. Be very careful the first time you screw the wing in place, so that you do not accidently cross thread the screws. Using the wing to help align the fin in position bear in mind that the fin is in the proper location when the hinge line runs perpendicular to the tail boom and the fin is straight with the wing with approximately 2.5" of fin positioned beneath the tail boom. An extra set of eyes can help out with this step. When you are confident that you are ready to permanently mount the fin you can secure it in place with a small quantity of 5-minute epoxy or spot glue it with flexible CA and when ready apply a permanent glue joint.

2) Mount the horizontal stabilizer in place on the V-mount.
Align the stab with the wing and fin so that all surfaces are normal to each other and you can actuate the stab with out touching the leading edge of the fin. When all looks good secure the V-mount to the tail boom with flexible CA. place a piece of masking tape under the wing pylon so that you can mark the CG location of 80 mm or 2.8" from the leading edge of the wing.

3) Remove the wing and stab and place them in a safe place. Remember to put the wing screws and tail retainer in a small parts container. Place some masking tape on the side of the fuselage pod where the push rods will enter the pod. I found that the center point was 2.2" aft from the nose cone seat and centered with the tail boom was a good location. Use a Dremel tool with a cut-off wheel to make the slot. The object is to cut access in the pod but not in to the tail boom beneath. Check that the pushrod will fit in the slot with out binding and pinching the carbon push rod.

4) If you use the equipment I have recommended you can start the equipment installation by cutting the access hole for the battery 1.4" from the nose of the balsa floor. Try to make all the components fit a little snug. Leave about a 1/16" space between the back of the battery and lay out the space for the AR6200 receiver. Note: the receive mounts inverted from above. Next come the two JR DS285 servos. Make sure the servo has the arm centered in the middle of the fuselage to insure servo arm clearance inside the nose cone. You may note that I put small strips of lite plywood under the servo lugs to accept servo-mounting screws. I also found that in my installation the servos sat a little high, so I removed the balsa floor under the lugs and lowered the servos for additional clearance. If you use different equipment start by putting you battery pack in to the nose cone in the orientation it will be mounted. Let the battery slide as far forward as it is happy to go. Now measure from the back of the battery to the edge of the nose cone. Use this measurement to start your equipment installation plan.

I would mount the wing and stab and check the CG, as I planned my install so I could eliminate any additional nose weight. Don't forget the nose cone.

5) Finish up the radio equipment installation using the photos for additional information. Use the arms that came on the DS285 and trim them as shown.

6) The next step is to install the pushrods. I use a Z-bend at the servo and a 90-degree bend at the control surface. Start by installing the control horn in the right side of the rudder. I used some foam-safe for the internal bond and some flexible CA as a fillet on the outside. When planning the pushrod run, make sure the rod is in the Teflon tube. It is very easy to work a bind in to the push rod by forcing and gluing the rod out of position. Please work carefully from the tail going forward and tag the housing in place in a few spots. Constantly slide the pushrod to make sure it is not binding. Once the pushrods are in place you can wick some thin CA under the tube to secure it in place. Always work away from the end of the rods so that you cannot glue the rod in the tube with migrating CA. Finish up the connections at the rudder and the stab horn. Glue the 90-degree ends in place with flexible CA. I pull the rods well clear of the end of the pushrod to make sure I don't inadvertently glue it solid.

7) We will now finish up the servo connections for the rudder and elevator. The elevator is the front servo. Make sure the servos are centered and move in the right direction. Double-check the pushrods for binding. Prepare the Z-bends for the servo arms. Note the wire is smaller that the hole in the arm. This is OK, as we will use this later for final centering. Note the amount of pushrod that will slide in to the connector. Trim the

pushrods so that the rudder is straight and the elevators leading edge is .75" from the center of the tail boom. Always use a cut off wheel to trim the pushrods, never try a pair of side cutters it will split the end. When satisfied secure the connectors with flexible CA. Always point the glue away from the pushrod, no time to ruin it now. Double-check the centering of the control surfaces. When they are where you want them put a drop of thick CA on to the servo arm over the Z-Bends. Kick this CA off and all the slop should be removed from the system. I use 1/32" balsa to act as supports for the pushrod tubes at the front and rear of their runs, look at the pictures for clarification.

8) The General Assembly is now complete. If you are using the AR6200 double check the CG and mount the remote receiver where it makes sense. Look at the pictures to see where I put mine. Note that I run all my wires beneath the balsa keel. Take some time and clean up the wiring, I use waxed string, so that you can install the nose cone without fouling the wiring.

General Flight Notes:

I fly the Blaster 2 at a CG of 80mm and like its responsiveness. I have suggested 79 mm as a safe starting place for most people

For Launch and Reflex the flaperons are set so that the trailing edge is flat with the bottom of the wing.

For Cruise set I set the flaperons so they are flat to the top surface of the wing.

Adjust the rest of the throws and compensations until you are comfortable with their feel. I really like the Blaster 2 it flies great and still works in an afternoon wind.

I wish you the best of luck with your Blaster 2.

Larry Jolly